

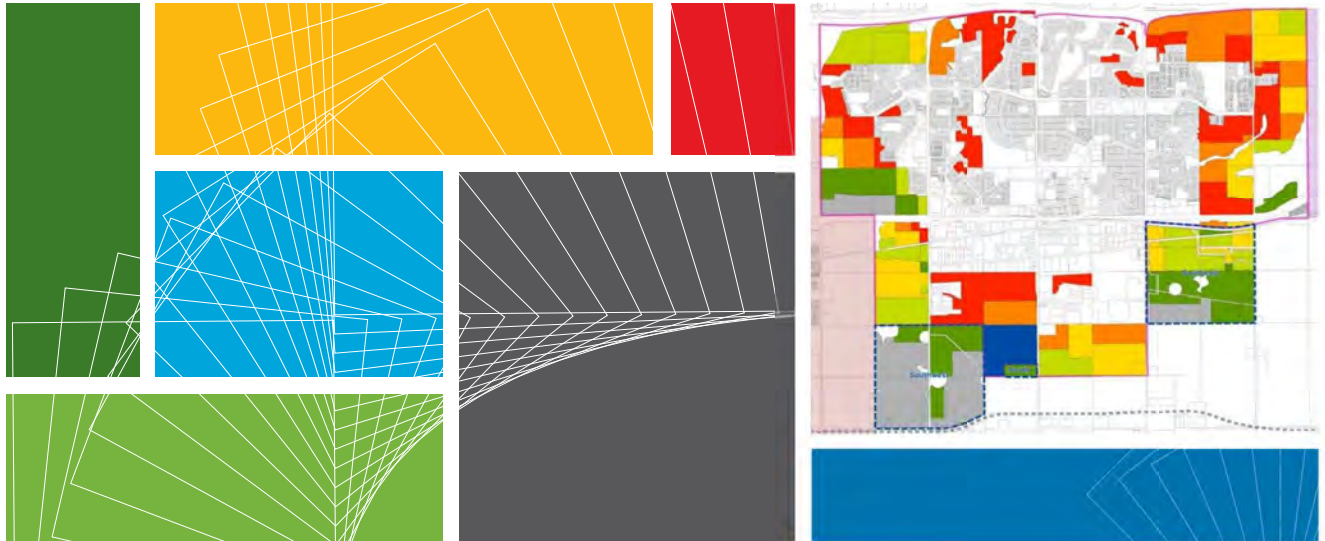


Appendix G
2019 Spruce Grove Growth Study Addendum





Inspiring sustainable thinking



City of Spruce Grove

Final Report

2019 Spruce Grove Growth Study Addendum

June 2019





ISL Engineering and Land Services Ltd. is an award-winning full-service consulting firm dedicated to working with all levels of government and the private sector to deliver planning and design solutions for transportation, water, and land projects.



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11.0 Introduction

The 2016 Spruce Grove Growth Study (the 2016 Study) was approved by the City of Spruce Grove in December 2016. The 2016 Study recommended an expansion area of approximately 22 quarter sections within Parkland County (the County), and a small expansion area within the Town of Stony Plain (the Town), to accommodate the City’s projected long-term growth over a 50-year period.

Following a period of negotiations, the City and County entered into a memorandum of understanding (MOU) agreeing to a short-term annexation of 7 quarter sections, more or less, to return Spruce Grove’s land supply to an estimated 30 years. This MOU also included a commitment to embark on a sub-regional planning exercise involving the City, the County, and the Town to include, among other things, the identification and protection of longer term 50-year growth directions for the City.

Subsequent to the MOU negotiation, the City retained ISL Engineering and Land Services (ISL) to analyze the originally identified 22-quarter section County expansion area to determine and recommend the most appropriate ±7 quarter sections within the expansion area to accommodate the City’s next 30 years of growth. This analysis resulted in the recommendation of three annexation areas within the originally identified County expansion area as illustrated on Map 17. The three annexation areas are described in more detail in Chapter 14.0 but are summarized as follows:

- the **Southwest Annexation Area** comprising 256.9 ha north of Highway 628 and east of the Town;
- the **South Annexation Area** comprising 10.1 ha on the west side of Golden Spike Road; and
- the **Southeast Annexation Area** comprising 246.6 ha south of Highway 16A between Century Road and Pioneer Road.

Overall, the three annexation areas comprise 513.6 ha or 7.9 gross quarter sections of land south of the City’s current corporate limits.

Based on this analysis, the City and the County ratified an agreement on April 23, 2019 for the annexation of the recommended 7.9 quarter sections, which is sufficient to accommodate approximately 30 years of City growth.

The purpose of this 2019 Spruce Grove Growth Study Addendum (Addendum) is to update the 2016 Study by:

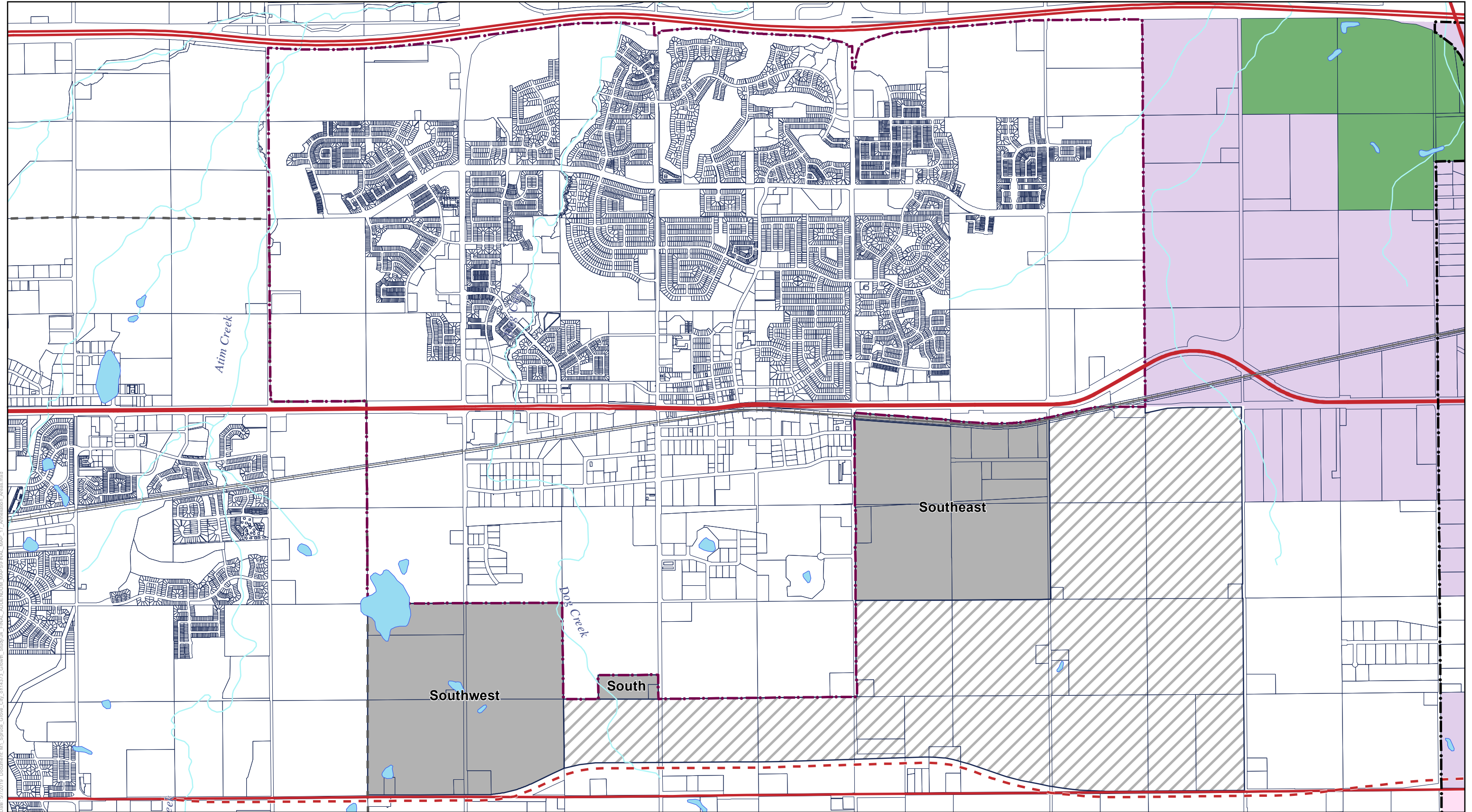
- documenting the analytical process used to identify and recommend the annexation areas subject to the annexation agreement;
- confirming the horizon of the annexation and associated land requirements; and
- updating the assumed preliminary land uses and development staging as necessary.

Those sections of the 2016 Study updated by this Addendum are presented in Table 24.

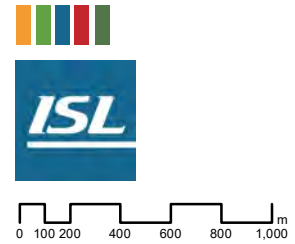
Table 24: 2019 Growth Study and 2019 Addendum Section Translation

2016 Growth Study	Section Title	2019 Growth Study Addendum
N/A	Determination of Short-Term Annexation Areas	Section 12.0
Section 7.0	Land Requirements	Section 13.0
Section 8.0	Recommended Annexation Areas	Section 14.0
Section 9.0	Development Staging	Section 15.0
Section 10.0	Summary and Conclusions	Section 16.0

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|----------------------|------------------------|-------------------------|-------------|----------------------------------|
| Study Area | Wagner Natural Area | Rail Line | Watercourse | Recommended Annexation Area |
| City of Spruce Grove | Acheson Industrial ASP | Highway 628 Realignment | Water Body | Balance of County Expansion Area |
| Town of Stony Plain | Enoch Cree Nation | Regional Road | | |

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**2019 GROWTH
STUDY ADDENDUM
MAP 17: RECOMMENDED
ANNEXATION AREAS**



12.0 Analysis of Short-Term Annexation Areas

Map 18 illustrates the City's original 22-quarter section County expansion area identified in the 2016 Study. This expansion area served as the area for the analysis undertaken to identify the ± 7 quarter sections best suited to accommodate the City's approximately 30 years of future growth.

This section documents the analytical process used to determine and recommend the agreed upon 7.8 gross quarter sections of annexation land previously illustrated in Map 17. The 22-quarter section analysis area was assessed against five sets of evaluative criteria:¹

1. the concept of complete communities coupled with previously anticipated future development staging;
2. stormwater serviceability;
3. water serviceability;
4. wastewater serviceability; and
5. transportation serviceability.

12.1 Complete Community and Staging

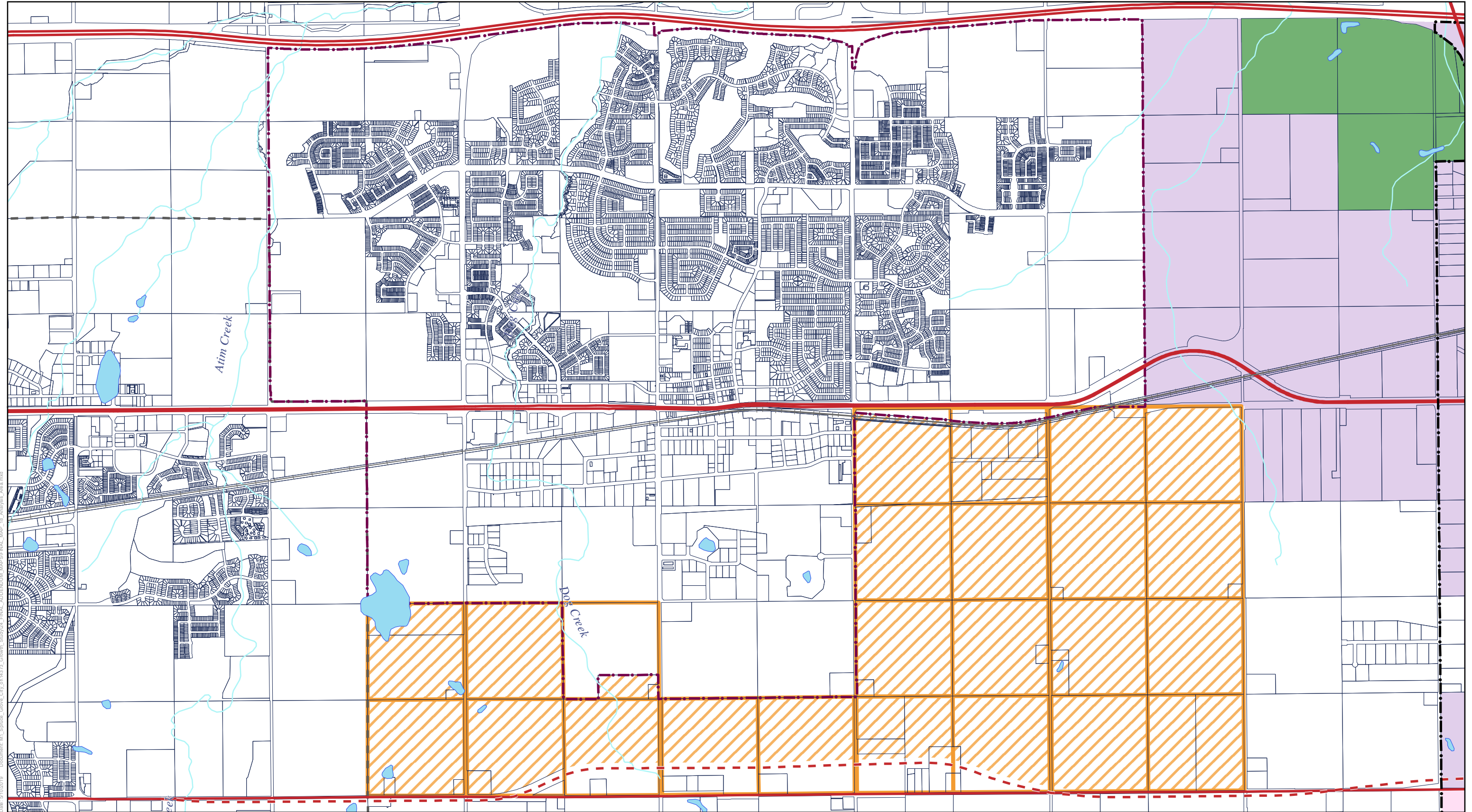
Best practice for determining future residential growth directions is to consider the creation of complete communities in units that can provide a wide range of housing options and sufficiently sustain supporting employment land uses, schools, amenities, etc. A complete community unit is typically a full section (4 quarter sections) of land.

The contiguous consumption of raw land is an urban subdivision and development best practice that provides for the efficient and cost-effective extension of infrastructure. Map 16 of the original 2016 Study presents estimated future development staging of lands in the City and its recommended expansion areas to 2042 in a contiguous, logically staged manner.

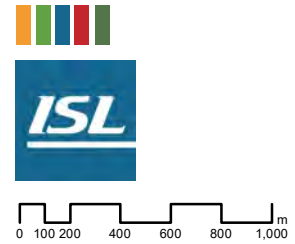
The evaluative criteria and associated scoring outlined in Table 25 have been established to rank quarter sections in the analysis area for both the concept of planning complete communities and the contiguous staging of development. The results are illustrated in Map 19.

¹ Maps 19 through 23 summarize the results of the quarter section evaluation in accordance with the criteria. The scoring for each quarter section as illustrated in Maps 19 through 23 range from 1 ("most favourable for short-term growth") to 10 ("least favourable for short-term growth"). A summary of all scoring is provided in Map 24, resulting in aggregate ranks ranging from 5 ("most favourable for short-term growth") to 50 ("least favourable for short-term growth"). Note however that all quarter sections remain favourable to accommodate the City's long-term growth.

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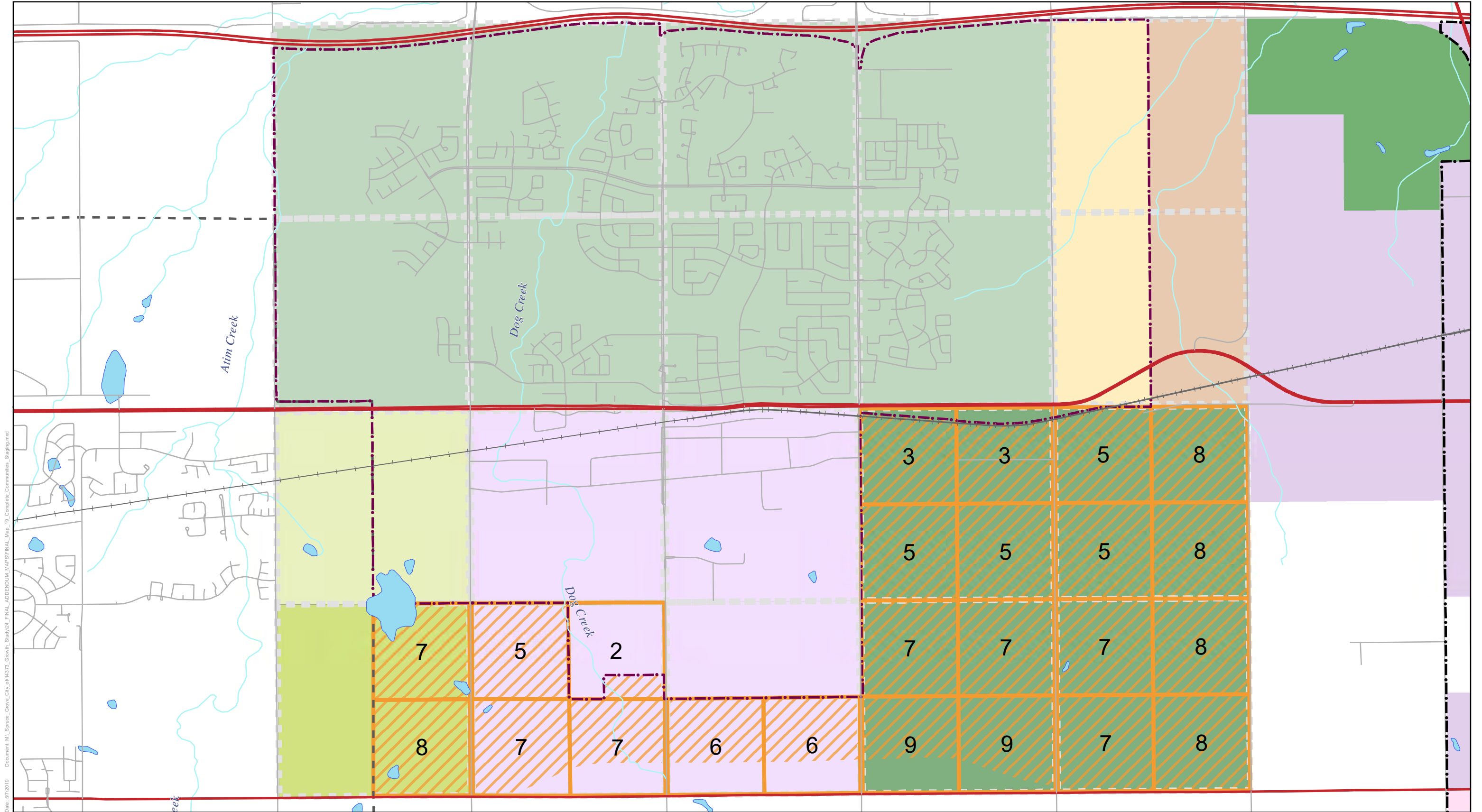
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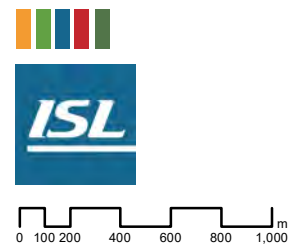
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|----------------------|------------------------|-------------------------|-------------|---|
| Study Area | Wagner Natural Area | Rail Line | Watercourse | County Expansion Area (Overall Analysis Area) |
| City of Spruce Grove | Acheson Industrial ASP | Highway 628 Realignment | Water Body | Quarter Section Analysis Area |
| Town of Stony Plain | Enoch Cree Nation | Regional Road | | |

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2019 GROWTH STUDY ADDENDUM
MAP 18: SHORT-TERM GROWTH ANALYSIS AREA



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| Study Area | Acheson Industrial ASP | Regional Road | Complete Community Unit | Complete Community (already in City) |
| City of Spruce Grove | Enoch Cree Nation | Other Road | Quarter Section Analysis Area and Rank | Complete Community (City and Town) |
| Town of Stony Plain | County Expansion Area | Watercourse | Complete Community Potential | Not Yet a Complete Community (partially in City) |
| Wagner Natural Area | Rail Line | Water Body | Complete Community Potential (City and Town) | Predominant Employment Area |

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2019 GROWTH STUDY ADDENDUM
MAP 19: COMPLETE COMMUNITY RANKINGS



Table 25: Evaluative Criteria and Scoring

Score	Criteria
1	Industrial employment (not needed to create a complete community) or provides opportunity to create a complete community under one municipal jurisdiction
2	Provides opportunity to create a complete community shared by two municipal jurisdictions
3	Provide opportunity to nearly create a complete community under one jurisdiction (impacted by Highway 628 realignment)
+1	Brings remaining balance of a quarter section into the City
+2	First stage of subdivision within quarter section likely within approximately 10 years of 2019
+3	First stage of subdivision within quarter section likely within approximately 15 years of 2019
+4	First stage of subdivision within quarter section likely within approximately 20 years of 2019
+5	First stage of subdivision within quarter section likely within approximately 25 years of 2019
+6	First stage of subdivision within quarter section likely within approximately 30 years of 2019 or beyond
+7	First stage of subdivision within quarter section likely within approximately 30 years of 2019 or beyond and contingent upon downstream infrastructure within Parkland County (see “Trunk to Service Beyond Sanitary Master Plan” in Map 22)

Note that the original staging contained in Map 16 in the 2016 Study was prepared in support of an associated 2016 Annexation Financial Impact Assessment (FIA) that had a 25-year horizon ending in 2042. As a result, the staging pattern was extrapolated outward to those quarters that had no staging assigned prior to 2042 so that “+5” and “+6” scoring could be applied.

12.2 Municipal Infrastructure Serviceability

To assist in recommending the optimal lands for annexation, the ease and cost of servicing the analysis area requires consideration. The servicing constraints of individual quarters can vary significantly and can have a negative impact of future servicing costs that need to be borne by the development industry and/or the City. These constraints typically involve proximity to existing servicing, but can also include topographic limitations, physical barriers (e.g. creeks) or capacity constraints within existing infrastructure.

To provide an objective evaluation of the serviceability of the analysis area for stormwater, water, and wastewater, criteria were developed to evaluate each quarter section of land. These evaluative criteria are presented in Table 26 and consider the following:

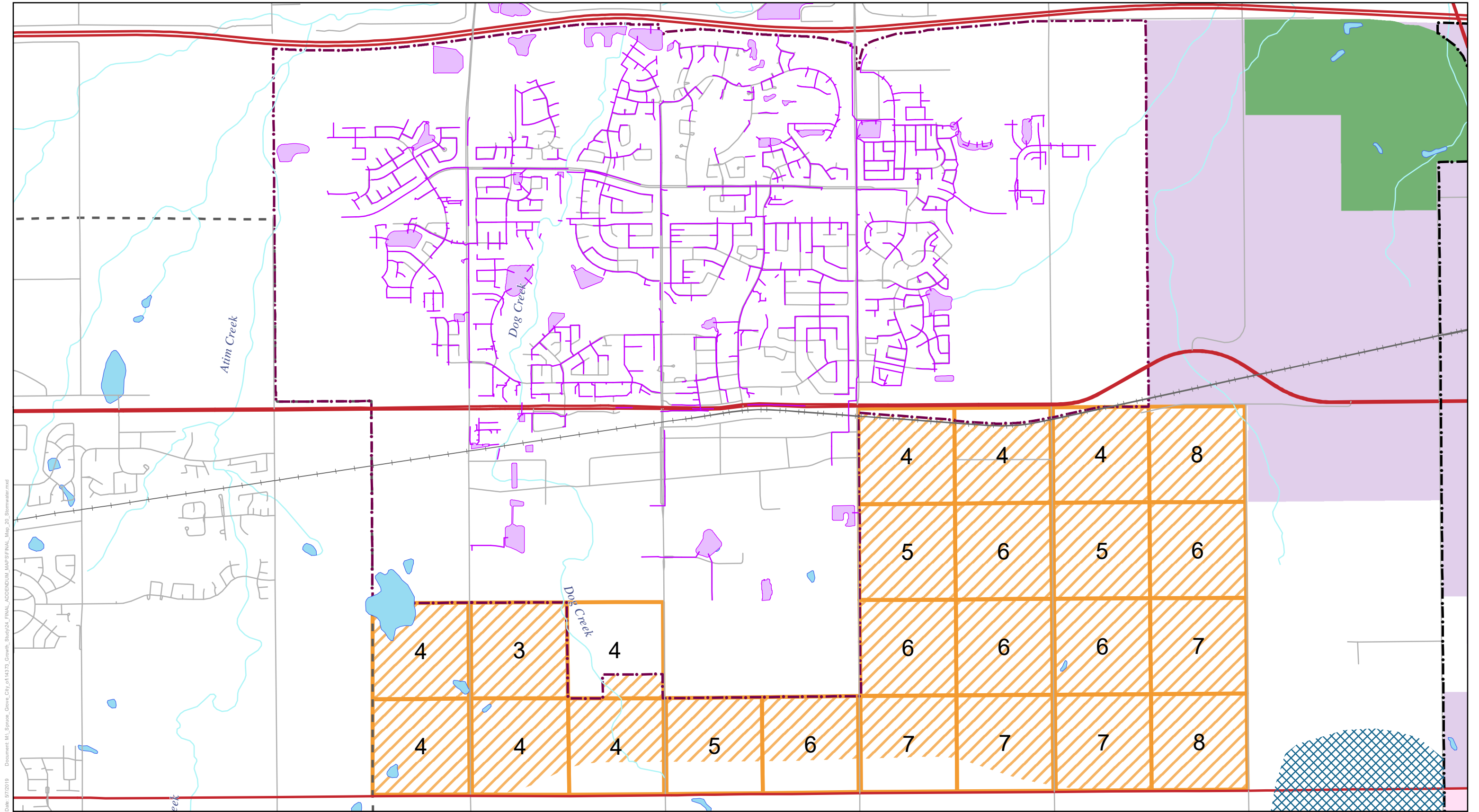
- proximity to existing development;
- the degree to which the existing systems need to be upgraded; and
- need for offsite infrastructure.

These criteria were used to evaluate serviceability as presented in Maps 20 through 22.

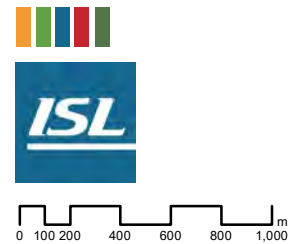
Table 26: Servicing Criteria and Scoring

Score	Description ²	Adjacent to Serviced Existing Development?	Service Requires:	
			Existing System Upgrades?	Offsite Infrastructure
1	Immediate servicing possible, no existing system upgrades required	✓		
2	Immediate servicing possible, minor existing system upgrades required	✓	✓	
3	Servicing possible once adjacent quarter-sections are serviced, minor (or no) existing system upgrades and/or offsite infrastructure required (likely already completed to enable servicing of the adjacent area) or Immediate servicing possible, but requires higher cost servicing (e.g. trenchless rail crossing, lift station)		~	~
4	Servicing possible once adjacent quarter-sections are serviced, substantial offsite infrastructure or existing system upgrades required in advance (to be completed as part of servicing of the adjacent/downstream areas)		✓	✓
5	Long-term development potential; Major existing system upgrades required before servicing / major constraints and/or 1st mile of long-term development	~	✓	✓
6	Long-term development potential; Major existing system upgrades required before servicing / major constraints and/or 2nd mile of long-term development	~	✓	✓
7	Long-term development potential; Major existing system upgrades required before servicing / major constraints and/or 3rd mile of long-term development	~	✓	✓
8	Long-term development potential; Major existing system upgrades required before servicing / major constraints and/or 4th mile of long-term development	~	✓	✓
9	Long-term development potential; Major existing system upgrades required before servicing / major constraints and/or 5th mile of long-term development	~	✓	✓
10	Long-term development potential; Major existing system upgrades required before servicing / major constraints and/or 6th mile of long-term development	~	✓	✓

² (~) denotes "may or may not be required depending on the area or other factors". (✓) denotes "required for the area".



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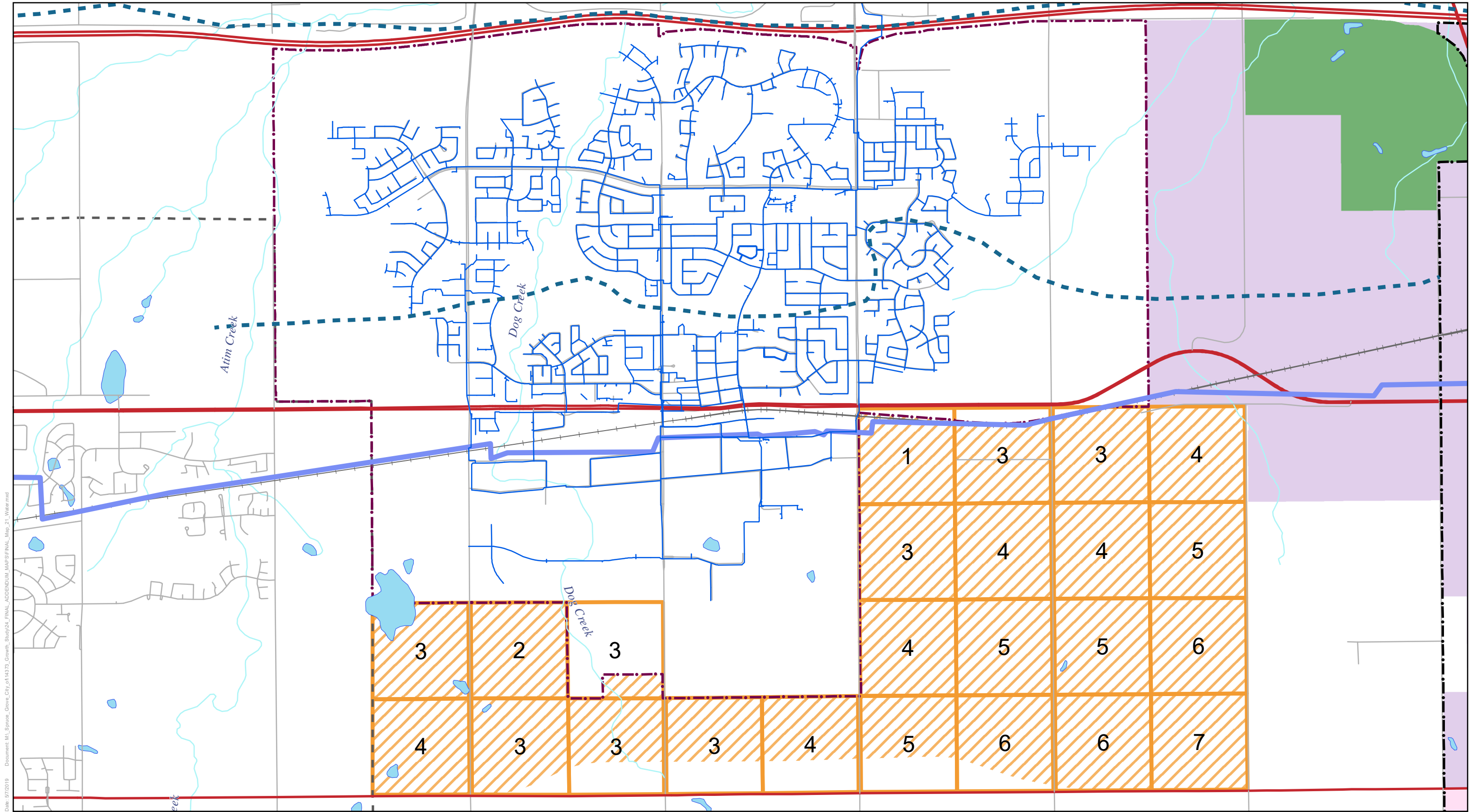


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| Study Area | Acheson Industrial ASP | Regional Road | # Quarter Section Analysis Area and Rank |
| City of Spruce Grove | Enoch Cree Nation | Other Road | Storm Sewer (as of Q1 2015) * |
| Town of Stony Plain | County Expansion Area | Watercourse | Storm Pond (as of Q1 2015) |
| Wagner Natural Area | Rail Line | Water Body | Potential Stormwater Service by Pumping |

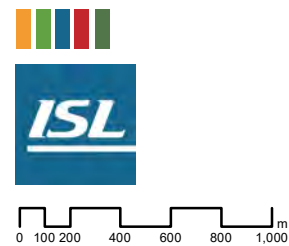
* Southward storm main extensions have occurred since 2015 including approximately 400 m south along Golden Spike Road from Saskatchewan Avenue to the new NAIT campus development, and approximately 1,600 m along Pioneer Road from Grove Drive to Highway 16A.

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2019 GROWTH STUDY ADDENDUM
MAP 20: STORMWATER SERVICEABILITY RANKINGS



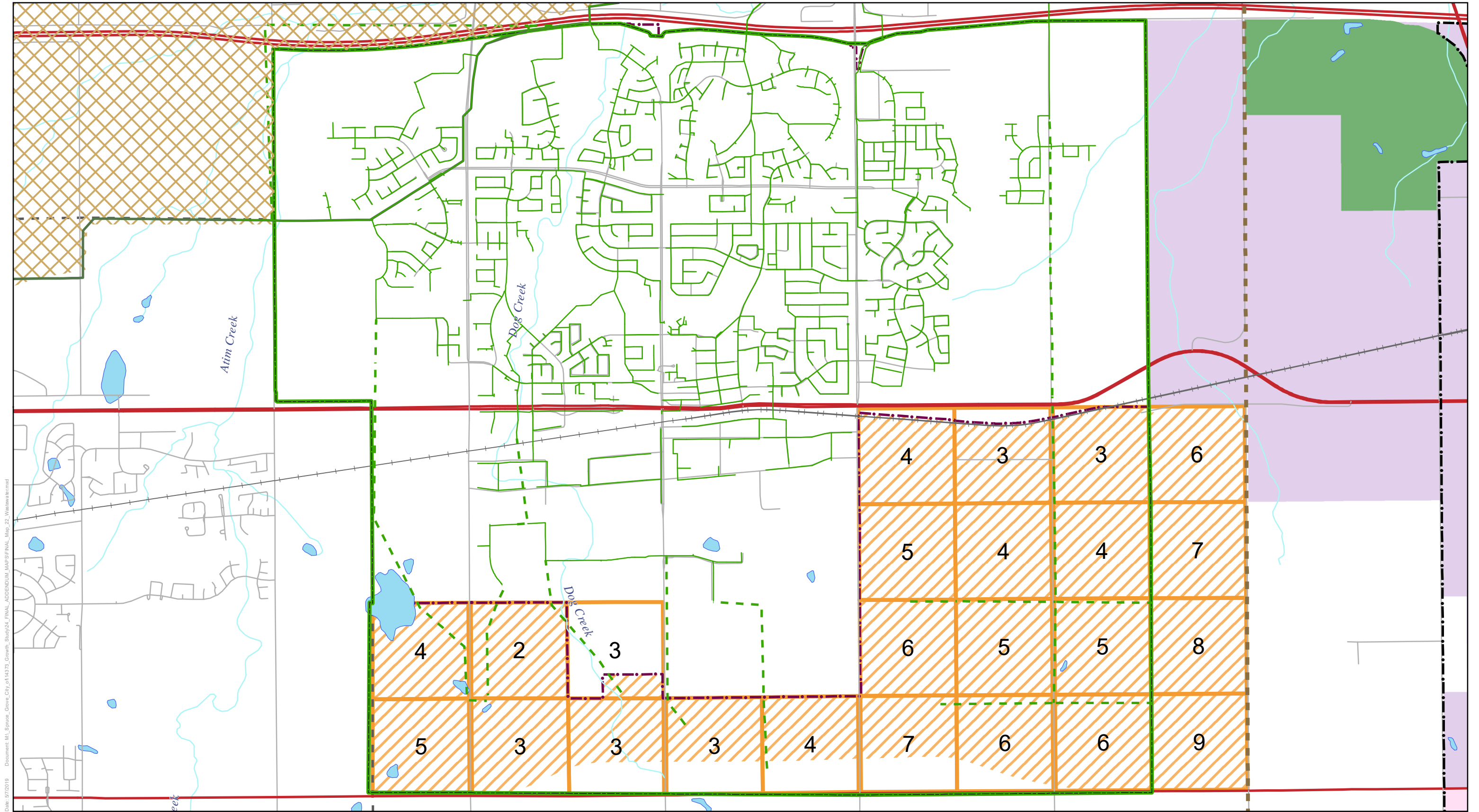
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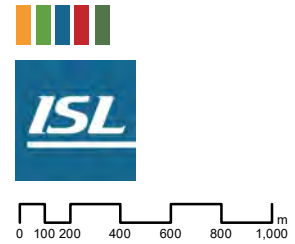
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| Study Area | Acheson Industrial ASP | Regional Road | Quarter Section Analysis Area and Rank |
| City of Spruce Grove | Enoch Cree Nation | Other Road | Water Main (as of Q1 2015) * |
| Town of Stony Plain | County Expansion Area | Watercourse | Regional Water Line (conceptual) |
| Wagner Natural Area | Rail Line | Water Body | Water Pressure Zone Boundary (approximate) |

* Southward water main extensions have occurred since 2015 including approximately 400 m south along Golden Spike Road from Saskatchewan Avenue to the new NAIT campus development, and approximately 1,600 m along Pioneer Road from Grove Drive to Highway 16A.

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|--|----------------------|--|------------------------|--|---------------|--|--|--|--|
| | Study Area | | Acheson Industrial ASP | | Regional Road | | Quarter Section Analysis Area and Rank | | Future Sanitary Sewer per Master Plan |
| | City of Spruce Grove | | Enoch Cree Nation | | Other Road | | Sanitary Master Plan Boundary | | Trunk to Service Beyond Sanitary Master Plan |
| | Town of Stony Plain | | County Expansion Area | | Watercourse | | Sanitary Sewer (as of Q1 2015) * | | Sanitary Not Serviceable by Gravity |
| | Wagner Natural Area | | Rail Line | | Water Body | | Regional Wastewater Line (conceptual) | | |

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2019 GROWTH STUDY ADDENDUM
MAP 22: WASTEWATER SERVICEABILITY RANKINGS

* Southward sanitary main extensions have occurred since 2015 including approximately 400 m south along Golden Spike Road from Saskatchewan Avenue to the new NAIT campus development, and approximately 1,600 m along Pioneer Road from Grove Drive to Highway 16A.



12.3 Transportation Serviceability

Transportation serviceability is based on the proximity of each quarter section to existing roadways. Lands that are adjacent to an existing paved urban four-lane roadway are considered more serviceable compared to lands located on a rural or gravel road. Proximity to future roadways is not considered in this analysis.

Within the analysis area, roadways are primarily rural (paved or gravel). In order to distinguish between the quarter sections, paved rural roadways have been divided into two categories – upgraded and regular, with upgraded roads possessing wider pavement widths, well maintained pavement markings, and defined shoulders. These characteristics make upgraded rural roadways more suitable connections for new development, and as such upgraded rural roads are scored slightly higher (3) than regular paved rural roads (4). Table 27 describes the ranking system.

Table 27: Transportation Criteria and Scoring

Score	Adjacent Roadway Conditions	Upgrade Type
1	Paved Urban (4-Lane)	–
2	Paved Urban (2-Lane)	–
3	Paved Rural Upgraded	–
4	Paved Rural Regular	Improve Existing
5	Within 800 m - 1,600 m of Rank #1 or #2	Improve Existing
6	Within 800 m - 1,600 m of Rank #3	Improve Existing
7	Within 800 m - 1,600 m of Rank #4	Improve Existing
8	Within 1,600 m - 2,400 m of Rank #1 and #2	Improve Existing
9	Within 1,600 m - 2,400 m of Rank #3 and #4	Improve Existing
10	Greater than 2,400 m from Rank #1 - #4	Improve Existing

The above transportation criteria was applied to the analysis area quarter sections as shown in Map 23. Proximity to Highway 16A and Highway 628 was not considered in the ranking unless the quarter section contained an existing highway access.

12.4 Aggregated Analysis Rankings

The aggregated totals of the rankings presented in Sections 12.1 through 12.3 are illustrated in Map 24.

12.5 Gross Undevelopable Land by Ranked Quarter

Map 25 identifies the gross undevelopable lands within the analysis area and presents the resulting developability of each quarter section in gross developable quarters (as opposed to gross quarters), as not every quarter section is fully developable. For the purpose of this analysis, undevelopable lands include such constraints as future environmental reserve, pipelines, well setbacks, rail right-of-way, and previously dedicated road allowances.

The labels inside each quarter section represent the total gross developable quarters (gdqtr) within each quarter section inside the analysis area.

12.6 Highest Ranked 7 Gross Developable Quarter Sections

Based on the aggregated scoring illustrated in Map 24 and the amount of gross developable land by quarter section on Map 25, the grey-dotted areas in Map 26 are presented as the highest-ranking lands that amount to a total of approximately 7 gross developable quarters. As shown in Table 28, while this configuration of lands exceeds the sum of overall 30-year beyond boundary land requirements in the 2016 Study’s Tables 21 through 23 by 51.9 ha, the 30-year supply is not uniform across land uses as it results in:

- A shortfall of 65.8 ha of residential land;
- A shortfall of 9.6 ha of commercial land; and
- A surplus of 127.3 ha of industrial land.

Table 28: 30-Year Land Requirement Impact of 7 Best Scoring Quarter Sections

Preliminary Land Uses in Growth Study (Map 15)	Gross Developable Area in Hectares (ha)		
	Total Area of Best Scoring Quarter Sections	30-Year Beyond Boundary Land Requirement, 2015-2045 (Growth Study Tables 21–23)	Difference
Residential	169.4	235.2	-65.8
Commercial	33.4	43.0	-9.6
Industrial	253.4	126.1	127.3
Total	456.2	404.3	51.9

12.7 Recommended Lands for Short-Term Annexation

As the configuration of the highest ranking gross developable quarters in Map 26 does not provide sufficient 30-year land supplies across all three core land uses – residential, commercial, and industrial – adjustments have been made using professional judgement based on the previous evaluations to better address the need to achieve full 30-year land requirements across all three core land uses. The result of these adjustments is three recommended annexation areas illustrated in Map 27 to the southeast, south, and southwest that comprise:

- a full section (or complete community) south of Highway 16A and east of Century Road (Southeast Annexation Area);
- the balance of a quarter section west of Golden Spike Road not already within the City’s corporate limits (South Annexation Area); and
- the east half of the section south of the Shiloh Area Structure Plan (ASP) and west of Campsite Road (to complete the west half of a community already within the Town) as well as the west half of the section across Campsite Road to the east to fulfill remaining industrial land requirements (Southwest Annexation Area).

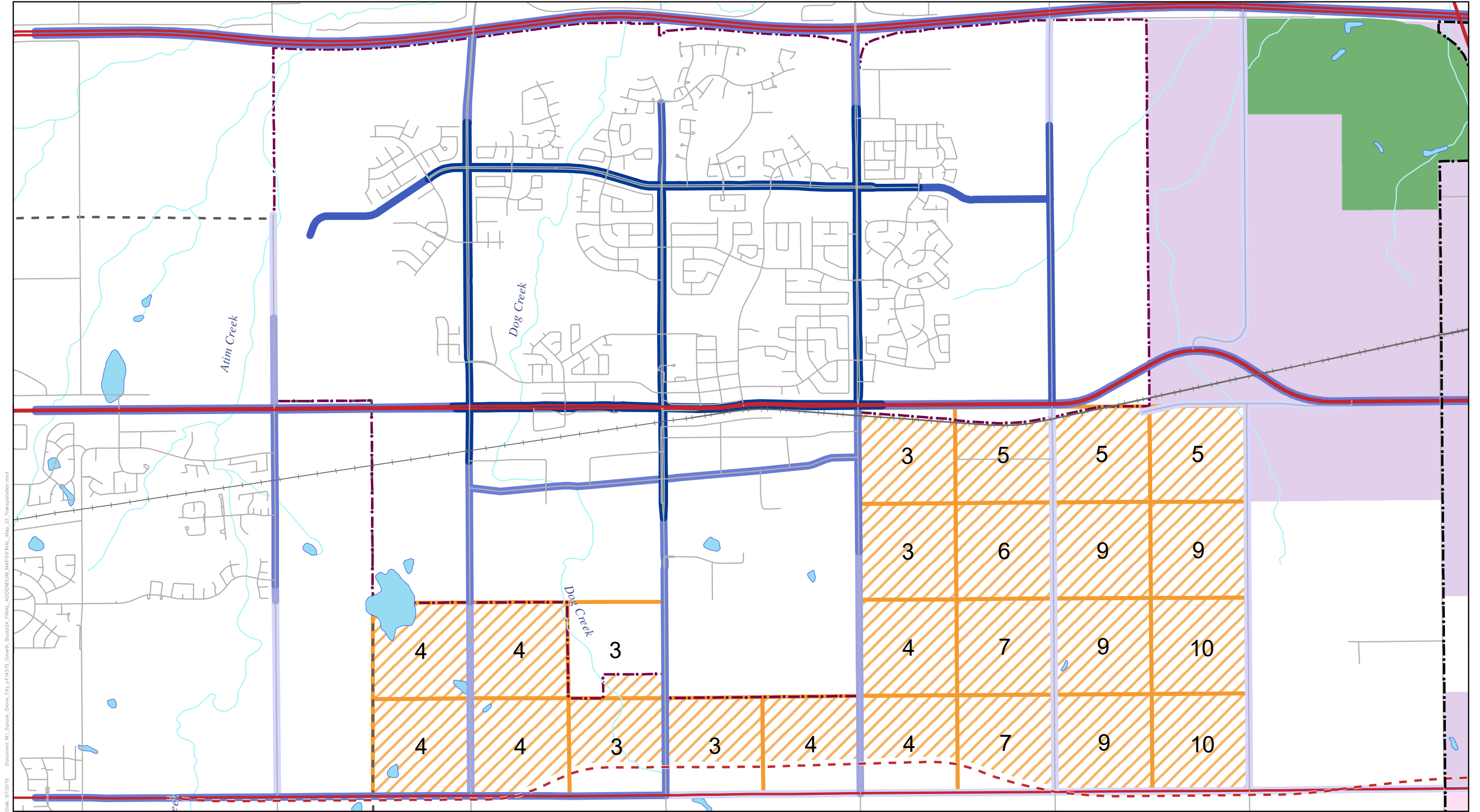
This configuration generally meets the City’s overall 30-year land requirement with a 54.0 ha surplus as shown in Table 29. It achieves a 30-year supply for both residential and industrial land uses with surpluses of 32.5 ha and 32.9 ha respectively. While there is an 11.5 ha shortfall of commercial land, the shortfall is small and can be addressed by replacing some residential and industrial lands with commercial lands.



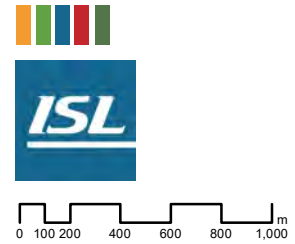
Table 29: 30-Year Land Requirement Impact of Recommended Annexation Areas

Preliminary Land Uses in Growth Study (Map 15)	Gross Developable Area (ha)		
	Total Area of Recommended Annexation Areas	30-Year Beyond Boundary Land Requirement, 2015-2045 (Growth Study Tables 21–23)	Difference
Residential	267.7	235.2	32.5
Commercial	31.5	43.0	-11.5
Industrial	159.0	126.1	32.9
Total	458.2	404.3	53.9

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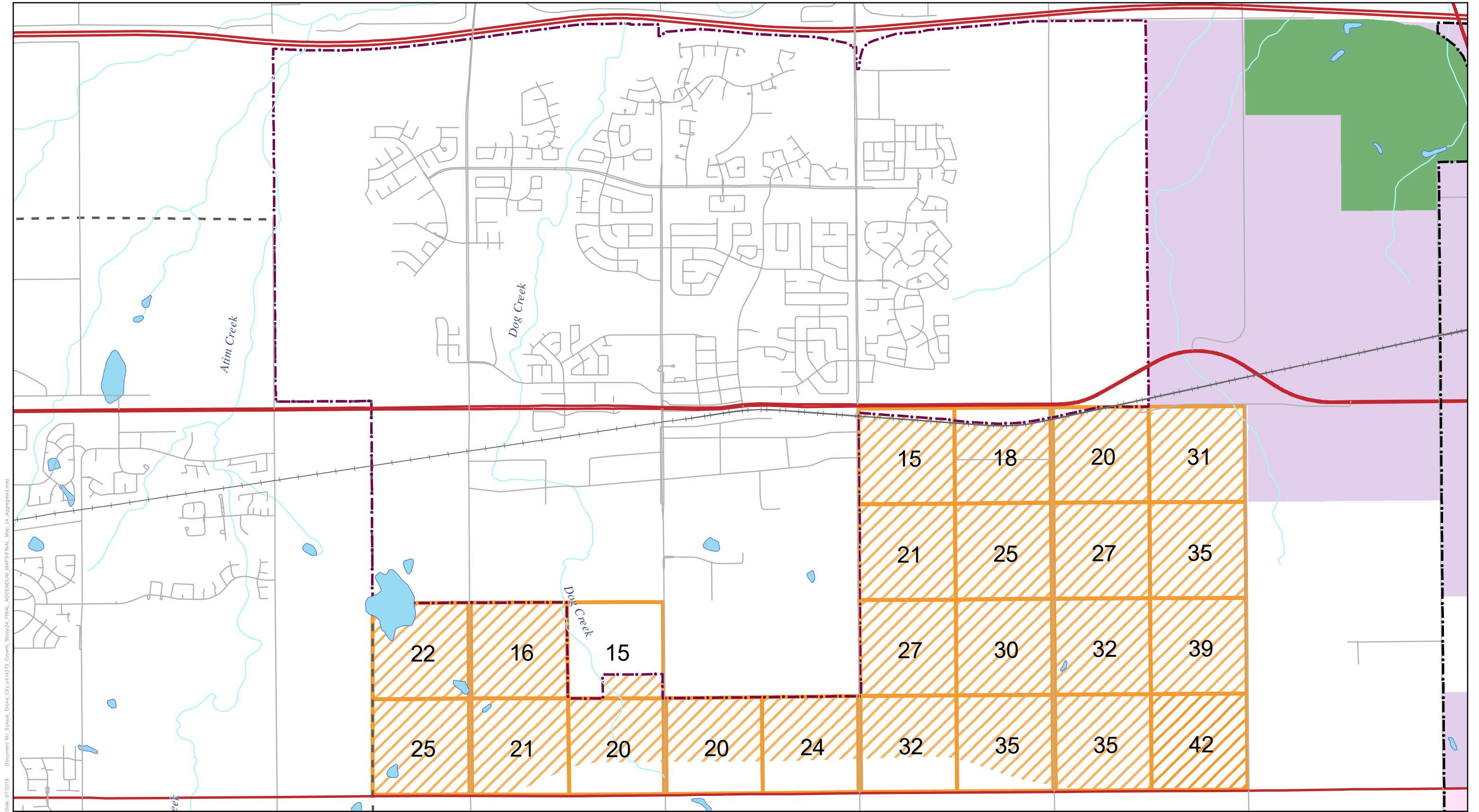
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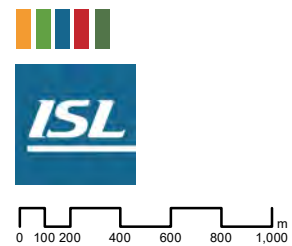
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|----------------------|------------------------|-------------------------|----------------------|--|
| Study Area | Acheson Industrial ASP | Highway 628 Realignment | Paved Urban (2 Lane) | Watercourse |
| City of Spruce Grove | Enoch Cree Nation | Regional Road | Paved Rural Upgraded | Water Body |
| Town of Stony Plain | County Expansion Area | Other Road (as of 2014) | Paved Rural Regular | Quarter Section Analysis Area and Rank |
| Wagner Natural Area | Rail Line | Paved Urban (4+ Lane) | Gravel | |

North arrow pointing up and scale 1:30,000.

2019 GROWTH STUDY ADDENDUM
MAP 23: TRANSPORTATION SERVICEABILITY RANKINGS



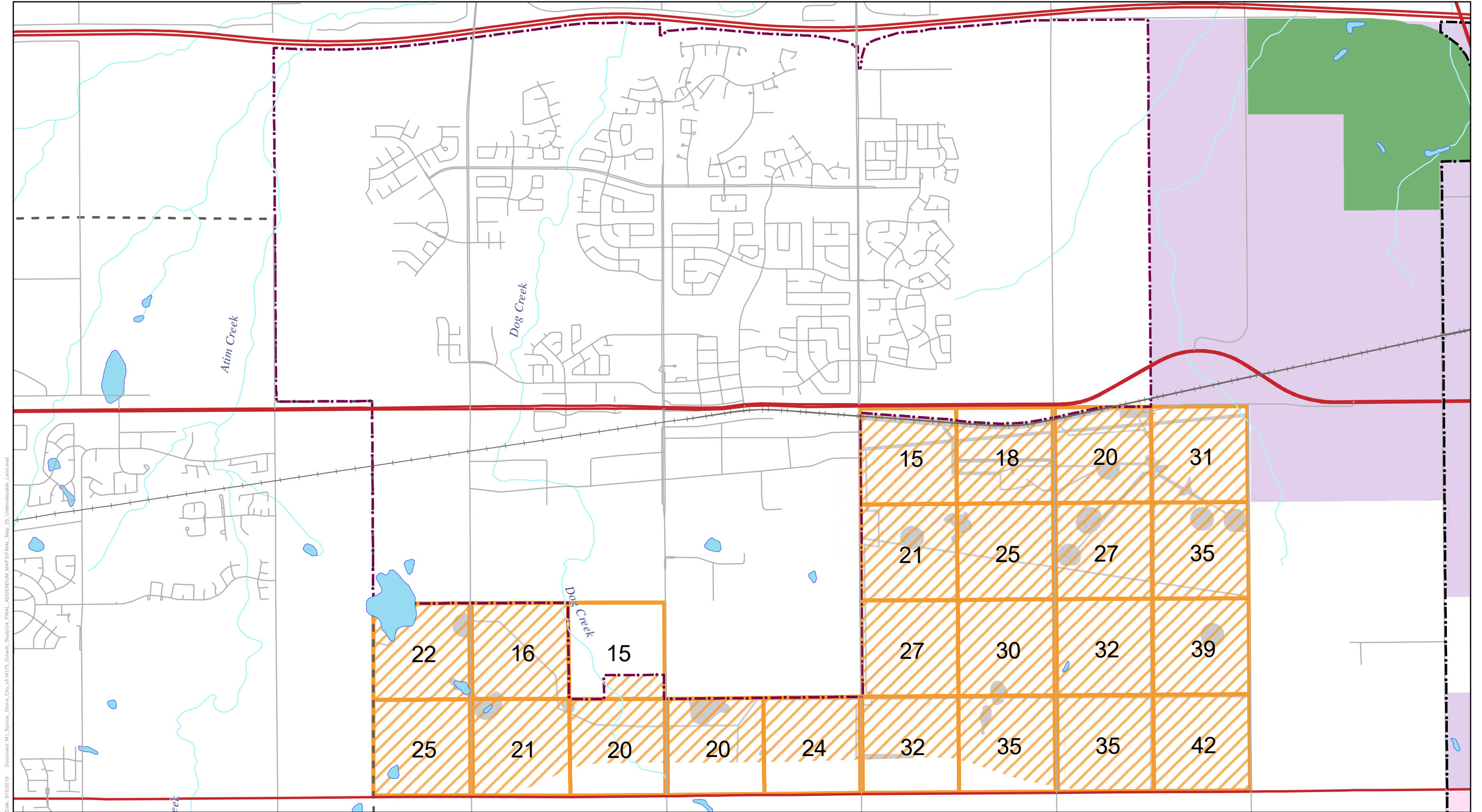
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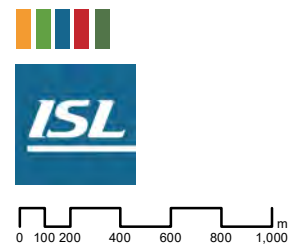
- Study Area
- Acheson Industrial ASP
- Regional Road
- # Quarter Section Analysis Area and Rank
- Enoch Cree Nation
- Other Road
- Town of Stony Plain
- County Expansion Area
- Watercourse
- Wagner Natural Area
- Rail Line
- Water Body



**2019 GROWTH
STUDY ADDENDUM
MAP 24: AGGREGATED
ANALYSIS RANKINGS**



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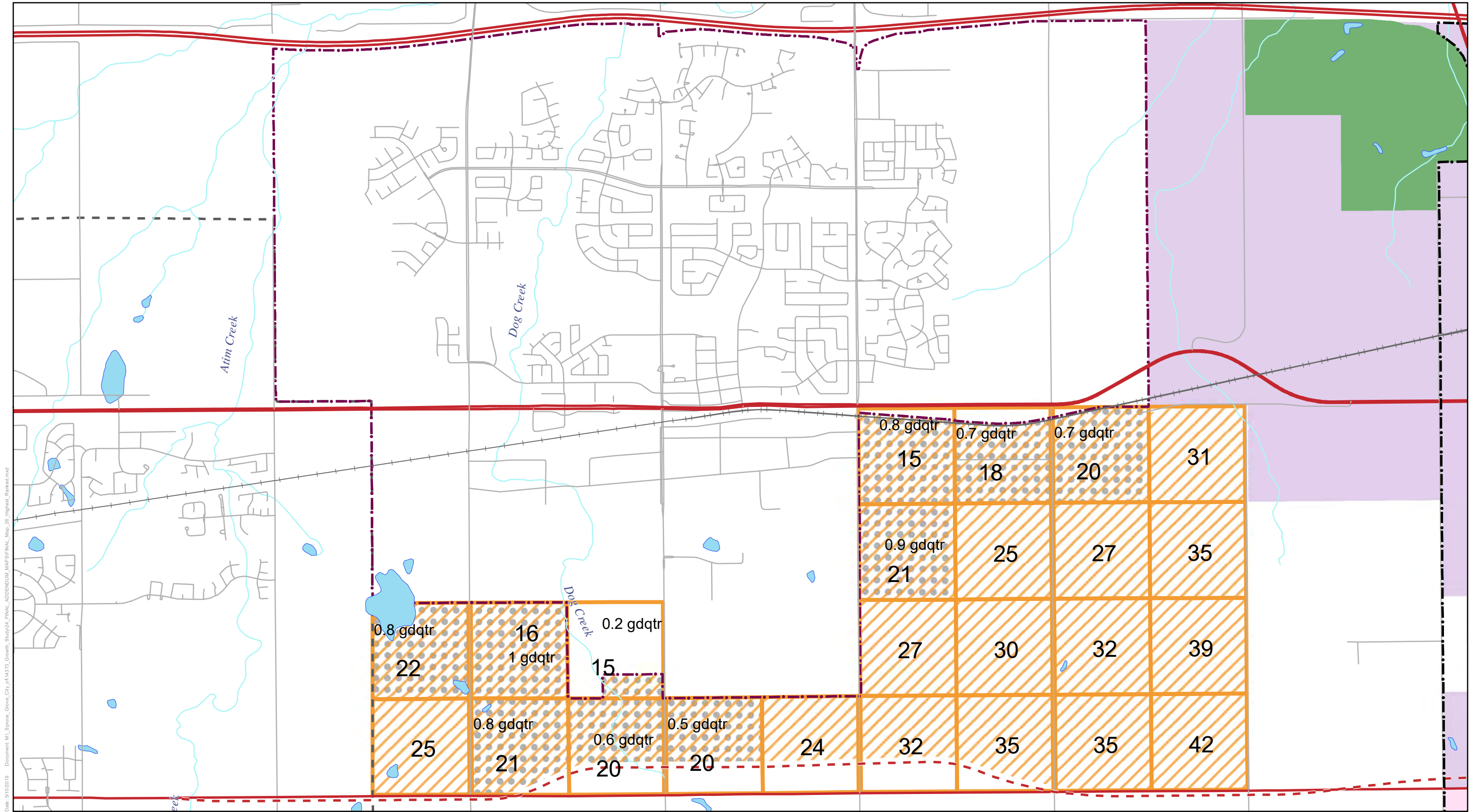
- Study Area
- City of Spruce Grove
- Town of Stony Plain
- Wagner Natural Area
- Acheson Industrial ASP
- Enoch Cree Nation
- County Expansion Area
- Rail Line
- Regional Road
- Other Road
- Watercourse
- Water Body

- # Quarter Section Analysis Area and Rank
- Gross Undevelopable Lands in County Expansion Area *

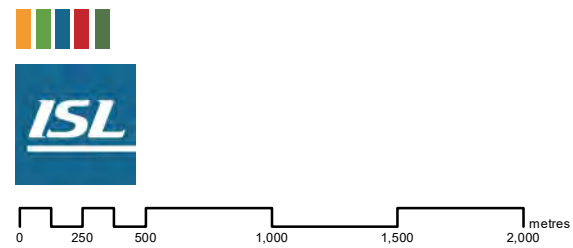
* Gross undevelopable lands including environmental reserve, pipelines, well setbacks, rail right-of-way, previously dedicated road allowances, etc.

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**2019 GROWTH
STUDY ADDENDUM
MAP 25: UNDEVELOPABLE
LAND BY QUARTER**



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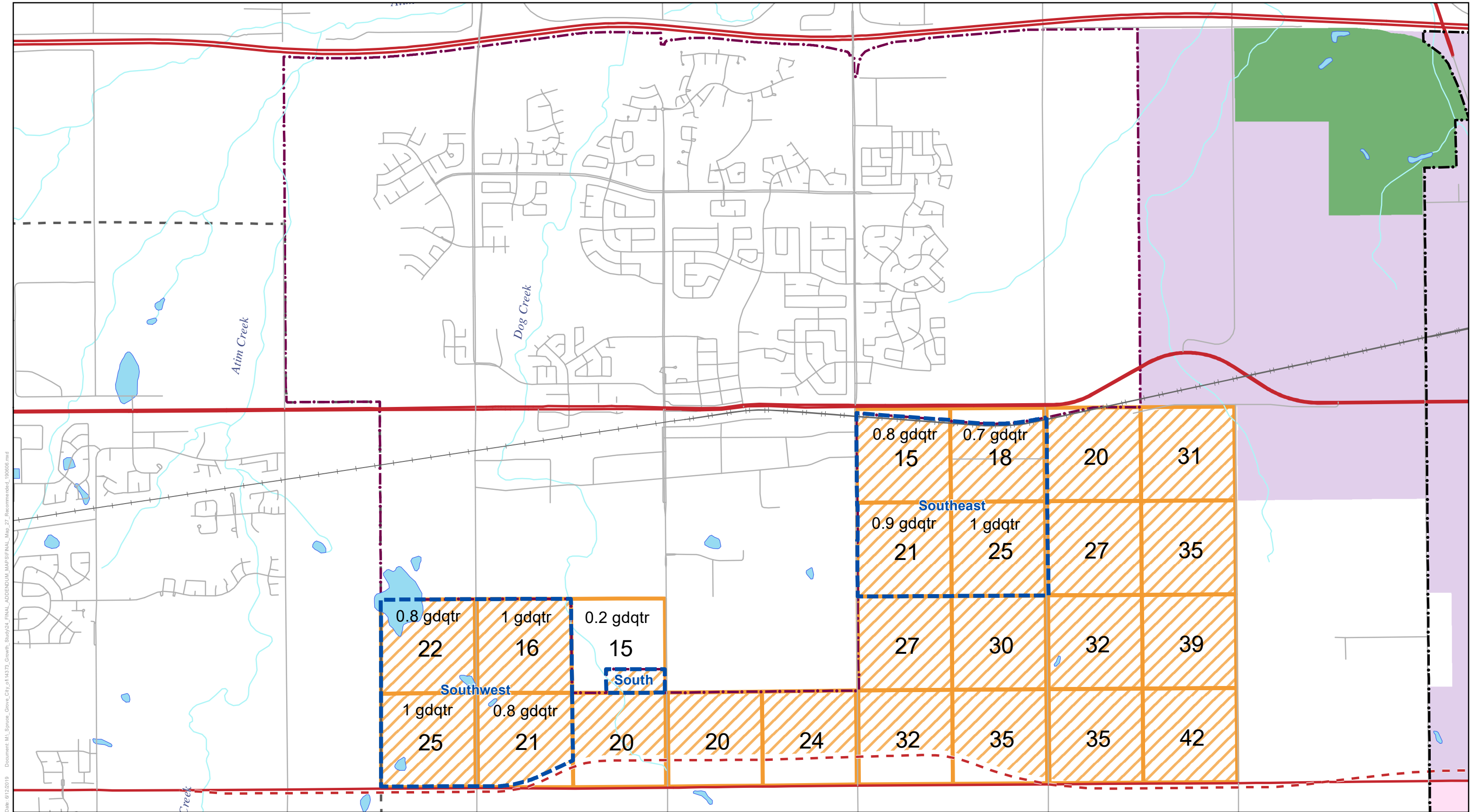


- Study Area
- City of Spruce Grove
- Town of Stony Plain
- Wagner Natural Area
- Acheson Industrial ASP
- Enoch Cree Nation
- County Expansion Area
- Rail Line
- Highway 628 Realignment
- Regional Road
- Other Road
- Watercourse

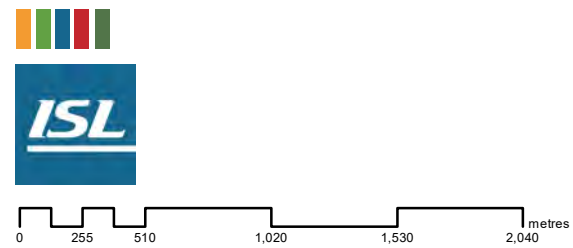
- Water Body
 - Quarter Section Analysis Area and Rank
 - Highest Ranked ±7 Gross Developable Quarters (gdqtr) *
- * Excludes gross undevelopable lands including environmental reserve, pipelines, well setbacks, rail right-of-way, previously dedicated road allowances, etc.

North arrow pointing up and scale 1:30,000.

2019 GROWTH STUDY ADDENDUM
MAP 26: HIGHEST RANKED QUARTER SECTIONS



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- Study Area
- City of Spruce Grove
- Town of Stony Plain
- Wagner Natural Area
- Acheson Industrial ASP
- Enoch Cree Nation
- County Expansion Area
- Rail Line
- Highway 628 Realignment
- Regional Road
- Other Road
- Watercourse

- Water Body
 - Quarter Section Analysis Area and Rank
 - Recommended Annexation Area
- * Excludes gross undevelopable lands including environmental reserve, pipelines, well setbacks, rail right-of-way, previously dedicated road allowances, etc.

1:30,645

2019 GROWTH STUDY ADDENDUM
MAP 27: RANKINGS OF RECOMMENDED QUARTERS



13.0 Land Requirements

Table 29 indicated that the recommended annexation areas contain 458.2 ha of gross developable land. Table 29 also indicated, as informed by the 2016 Study's Tables 21 through 23, that the recommended annexation areas satisfy the City's overall 30-year (2015 to 2045) beyond boundary land requirement of 404.3 ha. Referring again to Tables 21 through 23 in the 2016 Study, another 43.7 ha of land is required beyond boundary to accommodate growth in Year 31 (2047). Therefore, as noted in Table 30, the recommended annexation areas can accommodate the 448.0 ha of land required to accommodate 31 years of growth through to the end of 2047 and still have a small surplus of 10.3 ha.

Table 30: 31-Year Land Requirement Impact of Recommended Annexation Areas

Preliminary Land Uses in Growth Study (Map 15)	Gross Developable Area (ha)		
	Total Area of Recommended Annexation Areas	31-Year Beyond Boundary Land Requirement, 2015-2045 (Growth Study Tables 21–23)	Difference
Residential	267.7	265.1	2.6
Commercial	31.5	45.3	-13.8
Industrial	159.0	137.6	21.4
Total	458.2	448.0	10.2

Table 31 (was Table 19 in the 2016 Study) presents the City's updated future land requirements to the 31-year horizon of 2047. As Table 31 shows, the estimated gross developable lands required to meet City's 31-year growth needs to 2047 is 1,574.5 ha. This assumes the same recommended Medium-High Case scenario and other growth assumptions presented in Chapters 3.0 and 6.0 of the 2016 Study respectively. However, as presented in Table 13 in Chapter 4.0 of the 2016 Study, the City only has an available gross developable land supply of 1,148.6 ha. The City therefore requires an additional 425.9 ha of gross developable lands (6.7 gross developable quarter sections) to accommodate its projected growth to 2047.

Table 31: Revised Future Land Requirements to 2047

Land Use	Total Land Requirements (gross ha)	Remaining Lands in City (gross ha)	Lands Required Beyond City (gross ha)	Lands Required Beyond City (quarters)
Residential (including 75% Public Services)	1,027.3	762.2	265.1	4.2
Commercial	153.1	129.9	23.2	0.4
Industrial (including 25% Public Services)	394.1	256.5	137.6	2.2
Total Gross Developable	1,574.5	1,148.6	425.9	6.7
Undevelopable Land	–	–	55.4	0.9
Total Gross	–	–	481.3	7.6

As 55.4 ha of land within the three recommended annexation areas are considered undevelopable, the total gross land requirement increases to at least 481.3 ha (or 7.6 gross quarter sections). Undevelopable lands are overhead lands that are inevitably undevelopable. Examples of undevelopable overheads within the three recommended annexation areas include, among other things:

- pipeline, power transmission line and utility rights-of-way;
- legislated setbacks from oil and gas wells;
- wetlands recommended for retention;
- recommended environmental reserve lands; and
- existing road allowances.

Note that the 23.2 ha of gross developable commercial lands identified within Table 31 is less than the 45.3 ha of commercial lands identified in Table 30. This is due to the estimated development staging of commercial lands within Table 22 of the 2016 Study. Due to the presence of unmotivated owners of unabsorbed commercial lands on the City's west end, the 2016 Study assumed that the City's in-boundary land supply would not deplete until 2056. In this Addendum, the 2016 Study's estimated development staging assumptions remain unchanged, meaning there will be unabsorbed commercial land supply within the City beyond 2047. The quantity of these unabsorbed in-boundary commercial lands is presented in Chapter 15.0.



14.0 Recommended Annexation Areas

The three areas recommended for short-term annexation by the City, which were previously introduced in Map 17 within Chapter 11.0, include:

- a **Southwest Annexation Area** comprising 256.9 ha (nearly 4 gross quarter sections) consisting of 9 parcels north of Highway 628 and east of the Town bisected by Campsite Road (Range Road 274);
- a **South Annexation Area** consisting of 2 parcels totaling 10.1 ha on the west side of Golden Spike Road (Range Road 273) within the balance of a quarter section to the north and west that is already within the City and part of the Spruce Grove NAIT Campus; and
- a **Southeast Annexation Area** comprising 246.6 ha (3.8 gross quarter sections) consisting of 18 parcels, including the Canadian National (CN) main line to the south of Highway 16A between Century Road (Range Road 272) and Pioneer Road (Range Road 271).

Overall, the three annexation areas comprise 513.6 ha or 7.9 gross quarter sections of land consisting of 29 parcels south of the City's current corporate limits. Within these areas, 89% or 458.2 ha of the 7.9 quarter sections was deemed to be developable.

These recommended annexation areas enable the City to return its land supply to an estimated 31 years. For residential, this represents an 8-year increase from its land supply depletion estimate in the 2016 Study. For commercial and industrial, this represents 5-year and 11-year increases in land supply depletion estimates respectively.

Preliminary land uses for the recommended annexation areas are illustrated in Map 28. In comparison to the 2016 Study's Map 15, land use adjustments have occurred in Map 28 to address the 13.8 ha shortfall of commercial land presented in Table 30. Adjustments include a slight increase in the size of the southern commercial node in the Southeast Annexation Area on the west side of Pioneer Road, and a significant expansion of the commercial node in the Southwest Annexation Area to the east side of Campsite Road. The significant expansion to the node in the Southwest Annexation Area is timely and appropriate given the recent provincial funding announcement for the reconstruction of Highway 628 between Edmonton and Stony Plain. The node will not only provide goods and services to customers in the developing residential and industrial areas in the vicinity, but also provide goods and services to commuters from the City, the Town, and the County that will opt to use the upgraded Highway 628 as opposed to Highway 16A.

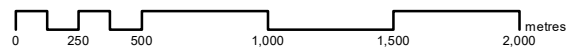
Table 32 summarizes the gross area of the recommended annexation areas, their gross undevelopable deductions, and their preliminary land use breakdowns, resulting in a gross area of 513.6 ha or 7.9 gross quarter sections.

















Table 33: Preliminary Land Use Breakdown of Recommended Annexation Areas

Land Use	Recommended Annexation Areas (ha)			
	Southwest	South	Southeast	Total
Gross Area of Annexation Areas	256.9	10.1	246.6	513.6
Environmental Reserve	12.5		3.2	15.7
Pipeline	2.5		13.7	16.2
Rail			8.4	8.4
Road Allowance	4.0		5.8	9.8
Well Setback	2.2		3.2	5.4
Total Gross Developable Land	235.7	10.1	212.4	458.2
Residential (including 75% Public Services)	111.2		154.5	265.7
Commercial	19.6		26.2	45.8
Industrial (including 75% Public Services)	104.9	10.1	31.7	146.7

Note that the land use designations shown in Map 28 are preliminary only. Ultimately, future land use designations will be formally assigned to lands within the recommended annexation areas through a post-annexation update to the City’s Municipal Development Plan. Future designation of these lands will be informed by: input from the public, affected landowners, and other stakeholders through a community engagement program; more detailed technical review of development potential; and land use and infrastructure planning principles and best practices.

Date: 01/2/2019 Document: M3_Spruce_Grove_City_014373_Growth_Study24_FINAL_ADDENDUM_MAPS(FINAL_Map_28_Preliminary_Land_Use_100000.mxd)



-  Parcel
-  Study Area
-  City of Spruce Grove
-  Town of Stony Plain
-  Acheson Industrial ASP
-  Enoch Cree Nation
-  Wagner Natural Area
-  Future Realigned Highway 628
-  Residential
-  Commercial
-  Industrial
-  Environmental Reserve
-  Pipeline/Well Setback
-  Rail
-  Road Allowance
-  Annexation Area

* The land use designations shown here are preliminary only. Ultimately, future land use designations will be formally assigned to lands within the proposed expansion areas through an update to the City's Municipal Development Plan after a boundary adjustment is approved. Future designations of these lands will be informed by things such as: input from the public, affected landowners and other stakeholders through a public consultation program; more detailed technical review of development potential; and land use and infrastructure planning principles and best practices.

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2019 GROWTH STUDY ADDENDUM MAP 28: PRELIMINARY LAND USE CONCEPT



15.0 Development Staging

Tables 21 through 23 of the 2016 Study presented the amount of residential, commercial, and industrial land consumed annually under its recommended Medium-High Case Scenario through to 2067 (a 50-year horizon from 2015 plus two stub years). The 2016 Study's Map 16 depicted a conceptual development staging plan to correspond to the three staging tables by land use.

Tables 34 through 36 of this Addendum present the amounts of residential, commercial, and industrial lands consumed by year through the 31-year horizon of the three recommended annexation areas to 2047. All assumptions within these tables remain the same as those applied to Tables 21 through 23 of the 2016 Study. Aside from the tables ending after 2047, the only differences in the two sets of tables are the opening and closing lands available within the annexation areas (last and third-last columns).

Map 29 illustrates the conceptual development staging plan within the recommended annexation areas. As lands in the 2016 Study's Map 16 staged development of residential, commercial and industrial lands east of Pioneer Road and south of the CN rail line within the 25-year horizon of 2042, minor adjustments to the staging plan were required in Map 29. Some residential and commercial staging was redistributed to the southeast corner of the Southeast Annexation Area on the west side of Pioneer Road. Industrial staging and the remaining residential and commercial staging were redistributed to either side of Campsite Road in the Southwest Annexation Area.

It is important to note that the development staging plan illustrated in Map 29 is a conceptual estimate generally based on the principle and influences identified in Chapter 9.0 of the 2016 Study. Ultimately, municipal policy, approved land use plans and market forces will dictate the actual staging of development post-annexation. In the interim, the staging plan in Map 29 is realistic and sufficient for establishing the foundation for the 2019 Annexation Fiscal Impact Assessment (FIA) Addendum prepared by CORVUS Business Advisors (CORVUS).

Map 30 illustrates the locations of anticipated capital plan projects for core water, wastewater, stormwater, and transportation infrastructure within this same 25-year staging horizon. These projects were compiled in a workshop setting with City Administration, ISL's engineering subject matter experts, and CORVUS in early 2017 using the original staging plan presented in Map 16 of the 2016 Study. After reviewing the slight adjustments to the staging plan in Map 30, it was determined that the anticipated capital plan projects and their locations remain sound. Like Map 29, Map 30 is carried forward from this 2019 Addendum for use in the 2019 Annexation FIA Addendum prepared by CORVUS.

Table 34: Estimated Annual Residential and 75% Public Services Land Consumption

Year	Total Land Req'd (ha)	Total Land to City (%)	Total Land to Annex. Area (%)	Opening City Lands Avail. (ha)	City Lands Consumed (ha)	Closing City Lands Avail. (ha)	Opening Annex. Lands Avail. (ha)	Annex. Lands Consumed (ha)	Closing Annex. Lands Avail. (ha)
2016	27.9	100	0	762.2	27.9	734.3	265.7	0.0	265.7
2017	29.2	100	0	734.3	29.2	705.1	265.7	0.0	265.7
2018	32.9	100	0	705.1	32.9	672.2	265.7	0.0	265.7
2019	35.2	100	0	672.2	35.2	636.9	265.7	0.0	265.7
2020	35.6	100	0	636.9	35.6	601.4	265.7	0.0	265.7
2021	34.6	100	0	601.4	34.6	566.8	265.7	0.0	265.7
2022	34.1	100	0	566.8	34.1	532.7	265.7	0.0	265.7
2023	34.6	100	0	532.7	34.6	498.1	265.7	0.0	265.7
2024	34.5	100	0	498.1	34.5	463.6	265.7	0.0	265.7
2025	34.8	100	0	463.6	34.8	428.8	265.7	0.0	265.7
2026	34.6	100	0	428.8	34.6	394.2	265.7	0.0	265.7
2027	34.6	100	0	394.2	34.6	359.5	265.7	0.0	265.7
2028	34.6	100	0	359.5	34.6	325.0	265.7	0.0	265.7
2029	34.7	100	0	325.0	34.7	290.2	265.7	0.0	265.7
2030	34.7	100	0	290.2	34.7	255.5	265.7	0.0	265.7
2031	33.5	78	22	255.5	27.2	228.3	265.7	6.3	259.3
2032	33.5	78	22	228.3	27.2	201.1	259.3	6.3	253.0
2033	33.7	78	22	201.1	27.4	173.8	253.0	6.4	246.6
2034	34.0	78	22	173.8	27.6	146.2	246.6	6.4	240.2
2035	34.2	78	22	146.2	27.7	118.5	240.2	6.5	233.7
2036	34.5	78	22	118.5	28.0	90.5	233.7	6.5	227.2
2037	34.8	78	22	90.5	28.2	62.3	227.2	6.6	220.6
2038	35.1	78	22	62.3	28.4	33.9	220.6	6.6	214.0
2039	35.5	78	22	33.9	28.8	5.1	214.0	6.7	207.3
2040	31.3	14	86	5.1	5.1	0.0	207.3	26.2	181.1
2041	30.7	0	100	0.0	0.0	0.0	181.1	30.7	150.4
2042	30.0	0	100	0.0	0.0	0.0	150.4	30.0	120.4
2043	30.0	0	100	0.0	0.0	0.0	120.4	30.0	90.5
2044	30.0	0	100	0.0	0.0	0.0	90.5	30.0	60.5
2045	30.0	0	100	0.0	0.0	0.0	60.5	30.0	30.5
2046	30.0	0	100	0.0	0.0	0.0	30.5	30.0	0.5
Total	1,027.3	—	—	—	762.2	—	—	265.1	—

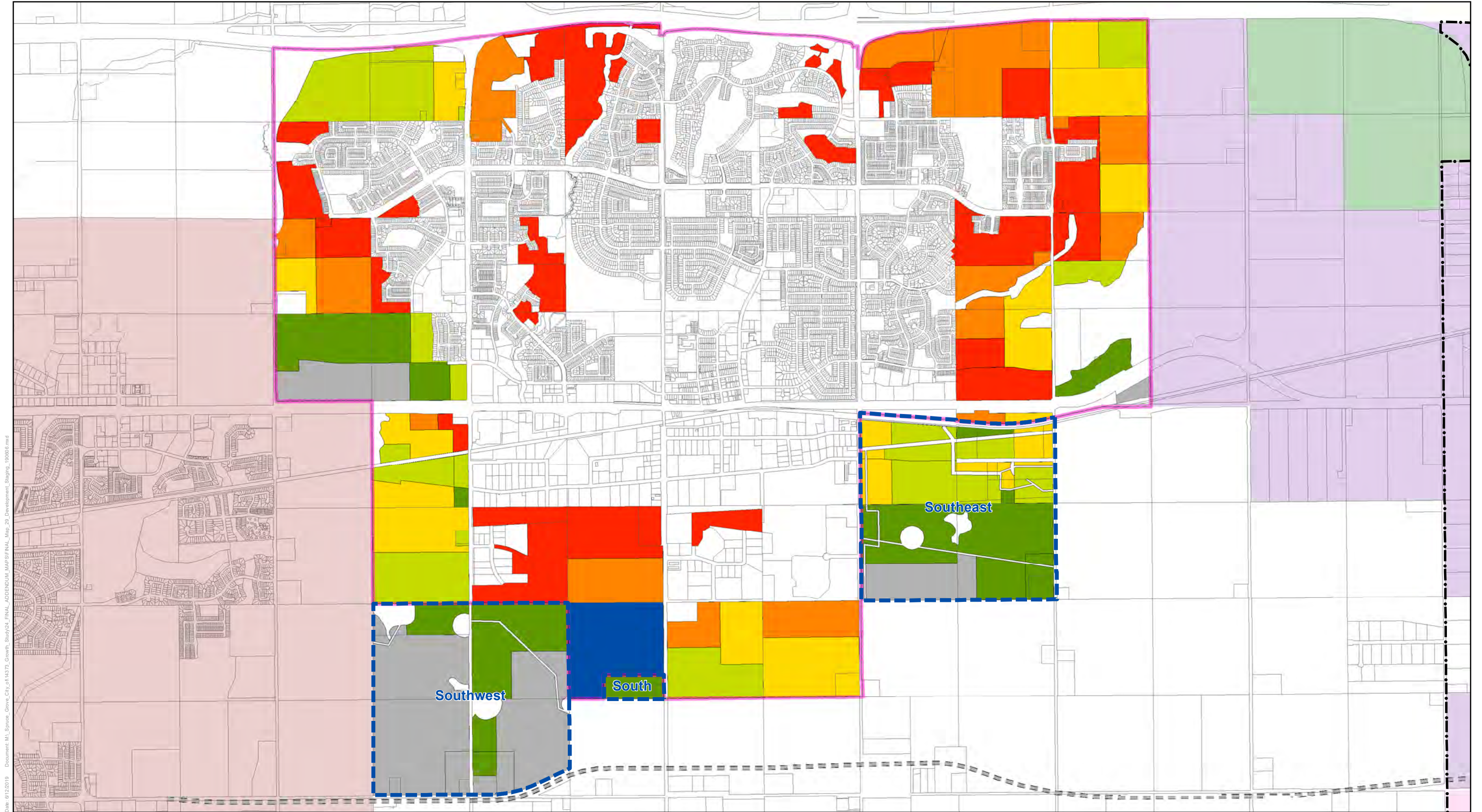


Table 35: Estimated Annual Commercial Land Consumption

Year	Total Land Req'd (ha)	Total Land to City (%)	Total Land to Annex. Area (%)	Opening City Lands Avail. (ha)	City Lands Consumed (ha)	Closing City Lands Avail. (ha)	Opening Annex. Lands Avail. (ha)	Annex. Lands Consumed (ha)	Closing Annex. Lands Avail. (ha)
2016	4.2	100	0	129.9	4.2	125.8	45.8	0.0	45.9
2017	4.4	100	0	125.8	4.4	121.4	45.8	0.0	45.9
2018	4.9	100	0	121.4	4.9	116.5	45.8	0.0	45.9
2019	5.3	100	0	116.5	5.3	111.3	45.8	0.0	45.9
2020	5.3	100	0	111.3	5.3	106.0	45.8	0.0	45.9
2021	5.2	100	0	106.0	5.2	100.8	45.8	0.0	45.9
2022	5.1	100	0	100.8	5.1	95.7	45.8	0.0	45.9
2023	5.2	100	0	95.7	5.2	90.6	45.8	0.0	45.9
2024	5.1	100	0	90.6	5.1	85.4	45.8	0.0	45.9
2025	5.2	100	0	85.4	5.2	80.2	45.8	0.0	45.9
2026	5.2	75	25	80.2	3.9	76.4	45.8	1.3	44.6
2027	5.2	75	25	76.4	3.9	72.5	44.5	1.3	43.3
2028	5.2	75	25	72.5	3.9	68.6	43.2	1.3	42.0
2029	5.2	75	25	68.6	3.9	64.8	41.9	1.3	40.7
2030	5.2	75	25	64.8	3.9	60.9	40.6	1.3	39.4
2031	5.0	50	50	60.9	2.5	58.4	39.3	2.5	36.9
2032	5.0	50	50	58.4	2.5	55.9	36.8	2.5	34.4
2033	5.0	50	50	55.9	2.5	53.4	34.3	2.5	31.9
2034	5.1	50	50	53.4	2.5	50.8	31.8	2.5	29.4
2035	5.1	50	50	50.8	2.5	48.3	29.3	2.5	26.9
2036	5.1	50	50	48.3	2.6	45.7	26.8	2.6	24.3
2037	5.2	50	50	45.7	2.6	43.1	24.2	2.6	21.7
2038	5.2	50	50	43.1	2.6	40.5	21.6	2.6	19.1
2039	5.3	50	50	40.5	2.6	37.9	19.0	2.6	16.4
2040	4.7	50	50	37.9	2.3	35.5	16.3	2.3	14.1
2041	4.6	50	50	35.5	2.3	33.2	14.0	2.3	11.8
2042	4.5	50	50	33.2	2.2	31.0	11.7	2.2	9.6
2043	4.5	50	50	31.0	2.2	28.8	9.5	2.2	7.3
2044	4.5	50	50	28.8	2.2	26.5	7.2	2.2	5.1
2045	4.5	50	50	26.5	2.2	24.3	5.0	2.2	2.9
2046	4.5	50	50	24.3	2.2	22.1	2.8	2.2	0.6
Total	153.1	—	—	—	107.9	—	—	45.3	—

Table 36: Estimated Annual Industrial and 25% Public Services Land Consumption

Year	Total Land Req'd (ha)	Total Land to City (%)	Total Land to Annex. Area (%)	Opening City Lands Avail. (ha)	City Lands Consumed (ha)	Closing City Lands Avail. (ha)	Opening Annex. Lands Avail. (ha)	Annex. Lands Consumed (ha)	Closing Annex. Lands Avail. (ha)
2016	10.7	100	0	256.5	10.7	245.8	146.7	0.0	146.7
2017	11.2	100	0	245.8	11.2	234.6	146.7	0.0	146.7
2018	12.6	100	0	234.6	12.6	222.0	146.7	0.0	146.7
2019	13.5	100	0	222.0	13.5	208.5	146.7	0.0	146.7
2020	13.6	100	0	208.5	13.6	194.8	146.7	0.0	146.7
2021	13.3	100	0	194.8	13.3	181.6	146.7	0.0	146.7
2022	13.1	100	0	181.6	13.1	168.5	146.7	0.0	146.7
2023	13.3	100	0	168.5	13.3	155.2	146.7	0.0	146.7
2024	13.3	100	0	155.2	13.3	141.9	146.7	0.0	146.7
2025	13.3	100	0	141.9	13.3	128.6	146.7	0.0	146.7
2026	13.3	100	0	128.6	13.3	115.3	146.7	0.0	146.7
2027	13.3	100	0	115.3	13.3	102.0	146.7	0.0	146.7
2028	13.3	100	0	102.0	13.3	88.8	146.7	0.0	146.7
2029	13.3	100	0	88.8	13.3	75.4	146.7	0.0	146.7
2030	13.3	100	0	75.4	13.3	62.1	146.7	0.0	146.7
2031	12.8	75	25	62.1	9.6	52.5	146.7	3.2	143.5
2032	12.9	75	25	52.5	9.7	42.8	143.5	3.2	140.3
2033	12.9	75	25	42.8	9.7	33.1	140.3	3.2	137.1
2034	13.0	75	25	33.1	9.8	23.3	137.1	3.3	133.8
2035	13.1	75	25	23.3	9.8	13.5	133.8	3.3	130.5
2036	13.2	75	25	13.5	9.9	3.6	130.5	3.3	127.2
2037	13.3	27	73	3.6	3.6	0.0	127.2	9.7	117.5
2038	13.5	0	100	0.0	0.0	0.0	117.5	13.5	104.0
2039	13.6	0	100	0.0	0.0	0.0	104.0	13.6	90.4
2040	12.0	0	100	0.0	0.0	0.0	90.4	12.0	78.4
2041	11.8	0	100	0.0	0.0	0.0	78.4	11.8	66.6
2042	11.5	0	100	0.0	0.0	0.0	66.6	11.5	55.1
2043	11.5	0	100	0.0	0.0	0.0	55.1	11.5	43.6
2044	11.5	0	100	0.0	0.0	0.0	43.6	11.5	32.1
2045	11.5	0	100	0.0	0.0	0.0	32.1	11.5	20.6
2046	11.5	0	100	0.0	0.0	0.0	20.6	11.5	9.1
Total	394.1	—	—	—	256.5	—	—	137.6	—



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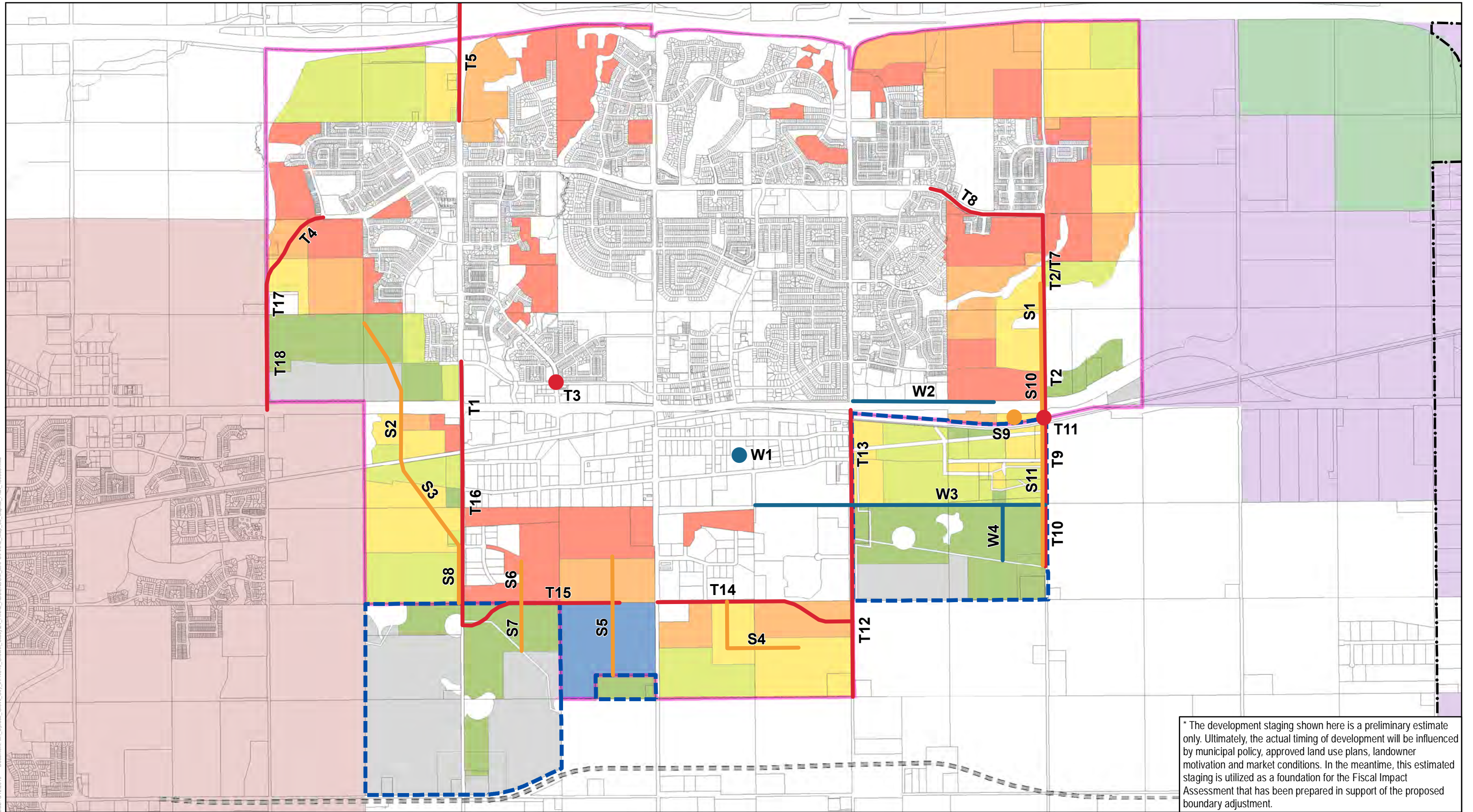
- Parcel
- Study Area
- City of Spruce Grove
- Town of Stony Plain
- Acheson Industrial ASP
- Enoch Cree Nation
- Wagner Natural Area
- Future Realigned Highway 628
- NAIT Campus
- 2016 to 2022
- 2023 to 2027
- 2028 to 2032
- 2033 to 2037
- 2038 to 2042
- Beyond 2042
- Annexation Area

* The development staging shown here is a preliminary estimate only. Ultimately, the actual timing of development will be influenced by municipal policy, approved land use plans, landowner motivation and market conditions. In the meantime, this estimated staging is utilized as a foundation for the Fiscal Impact Assessment that has been prepared in support of the proposed boundary adjustment.

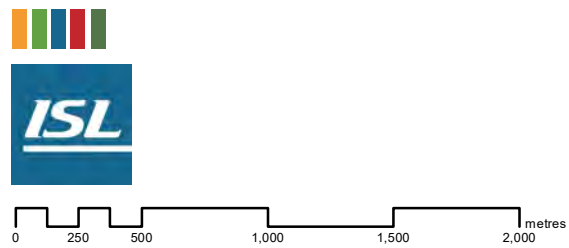
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2019 GROWTH STUDY ADDENDUM
MAP 29: DEVELOPMENT STAGING PLAN

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* The development staging shown here is a preliminary estimate only. Ultimately, the actual timing of development will be influenced by municipal policy, approved land use plans, landowner motivation and market conditions. In the meantime, this estimated staging is utilized as a foundation for the Fiscal Impact Assessment that has been prepared in support of the proposed boundary adjustment.



-  Parcel
-  Study Area
-  City of Spruce Grove
-  Town of Stony Plain
-  Acheson Industrial ASP
-  Enoch Cree Nation
-  Wagner Natural Area
-  Future Realigned Highway 628
-  NAIT Campus
-  2016 to 2022
-  2023 to 2027
-  2028 to 2032
-  2033 to 2037
-  2038 to 2042
-  Beyond 2042
-  Annexation Area
-  Water Project
-  Wastewater Project
-  Transportation Project
-  Water Project
-  Wastewater Project
-  Transportation Project

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2019 GROWTH STUDY ADDENDUM MAP 30: CAPITAL PLAN TO 2042



16.0 Summary and Conclusions

Section 10.0 of the 2016 Study provided summaries and concluding statements in support of a 50-year annexation by the City and identified recommended growth directions to meet those needs. Agreement to proceed with an approximate 30-year annexation results in one addition to the conclusions of the 2016 Study as follows:

29. Notwithstanding summary comments 27 and 28, in the spirit of intermunicipal cooperation that is mutually beneficial to the City and County, the municipalities have agreed in principle to a short-term, approximate 30-year annexation.

